

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Anthony Green Examiner #: 65854 Date: 4-10-06
 Art Unit: 1755 Phone Number 302-1367 Serial Number: 10721-417
 Mail Box and Bldg/Room Location: 9C15 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

Earliest Priority Filing Date: _____

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please see attached.

 STAFF USE ONLY

Searcher: Ed

Type of Search Vendors and cost where applicable

Searcher Phone #: _____

NA Sequence (#) STN \$408.79

Searcher Location: _____

AA Sequence (#) Dialog _____

Date Searcher Picked Up: _____

Structure (#) 2 Questel/Orbit _____

Date Completed: 4-21-06

Bibliographic and Dr. Link _____

Searcher Prep & Review Time: 5

Litigation Lexis/Nexis _____

Clerical Prep Time: _____

Fulltext Sequence Systems _____

Online Time: 70

Patent Family WWW/Internet _____

Other Other (specify) _____

Banks, Kendra

184938

From: Green, Anthony (AU1755)
Sent: Monday, April 10, 2006 4:20 PM
To: STIC-EIC1700
Subject: Structure search 10/721,417

Please search the structures found in the independent claims. Thanks

Anthony Green
Primary Patent Examiner
AU 1755
571-272-1367

SCIENTIFIC REFERENCE BR
Sci & Tech Inf. Ctr.

(APR 11 2006)

Pat. & T.M. Office

=> file reg
FILE 'REGISTRY' ENTERED AT 12:40:19 ON 21 APR 2006
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L3 STR L1

FILE 'REGISTRY' ENTERED AT 12:10:38 ON 21 APR 2006
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L5 123 S L3 FUL
SAV L5 GRE417/A
L6 0 S L1 SSS SAM SUB=L5
L7 STR L3
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SAV L9 GRE417A/A
L10 103 S L5 NOT L9

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L11 0 S L9
L12 0 S L10

FILE 'HCA' ENTERED AT 12:35:28 ON 21 APR 2006
L13 10 S L9
L14 11 S L10
L15 48991 S LEATHER? OR COWHIDE? OR (ANIMAL? OR COW) (2A)HIDE# OR RA
L16 27279 S TANNED OR TANNING#
L17 23233 S PICKL?
L18 1 S (L13 OR L14) AND (L15 OR L16 OR L17)
L19 9 S L13 NOT L18
L20 11 S L14 NOT (L18 OR L19)

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GRAPH ATTRIBUTES:

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STEREO ATTRIBUTES: NONE

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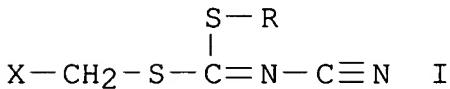
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 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
 COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

=> d 118 1 cbib abs hitstr hitind

L18 ANSWER 1 OF 1 HCA COPYRIGHT 2006 ACS on STN
 142:483884 Cyanodithiocarbimate fungicidal compositions for
leather substrates. Fenyes, Joseph G. E.; Mcneel, Thomas
 E.; Bryant, Stephen D.; Whittemore, Marilyn S.; Csuros, Zoltan G.;
 Zollinger, Mark L.; Miller, Robert H.; Miguel, Naim B. (USA). U.S.
 Pat. Appl. Publ. US 2005109975 A1 20050526, 10 pp. (English).
 CODEN: USXXCO. APPLICATION: US 2003-721417 20031126.

GI



AB The invention relates to control fungal growth on **tanned** hides, using cyanodithiocarbimates I, wherein X = halogen; R = (un)substituted C1-14 alkyl, alkenyl, or alkynyl, or (un)substituted YAr(CH₂)_m or Z(CH₂)_n; Ar = (un)substituted aryl selected from Ph, or naphthyl; Y = H, halogen, NO₂, R₁, R₁O, R₁R₂N; Z = NC, R₁O, R₁O_C(O), R₁OCH₂CH₂(OCH₂CH₂)_p; m, n, p = 0-3; and R₁, R₂ = independently H or (un)substituted C1-5 alkyl. Thus, 500 g cyanamide and 790 mL carbon disulfide were reacted in the presence of potassium hydroxide, reacted with bromohexane in the presence of tetrabutylammonium bromide, the resulting hexyl kabonate was reacted with bromochloromethane in the presence of tetrabutylammonium bromide to give hexylchloromethylcyanodithiocarbimate with yield .gtoreq.90% and purity 93%, showing good fungicidal effect on **cow** hides.

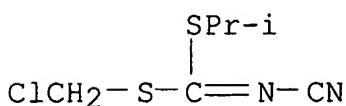
IT 117420-92-5 117420-93-6 117420-94-7

117420-95-8 852023-52-0 852023-53-1
 852023-54-2 852023-55-3 852023-56-4
 852023-57-5 852023-58-6 852023-59-7
 852023-60-0 852023-61-1 852023-62-2
 852023-63-3

(prepn. of cyanodithiocarbimates for fungicidal compns. for
leather substrates)

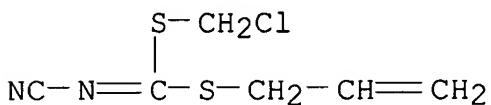
RN 117420-92-5 HCA

CN Carbonimidodithioic acid, cyano-, chloromethyl 1-methylethyl ester
 (9CI) (CA INDEX NAME)



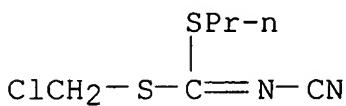
RN 117420-93-6 HCA

CN Carbonimidodithioic acid, cyano-, chloromethyl 2-propenyl ester
 (9CI) (CA INDEX NAME)



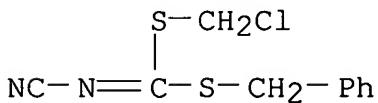
RN 117420-94-7 HCA

CN Carbonimidodithioic acid, cyano-, chloromethyl propyl ester (9CI)
 (CA INDEX NAME)



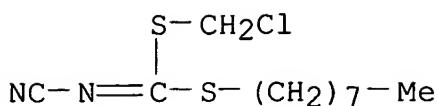
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 (9CI) (CA INDEX NAME)

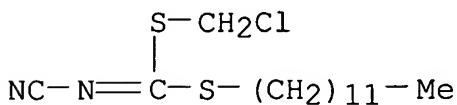


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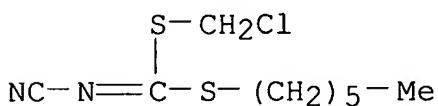
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 (CA INDEX NAME)



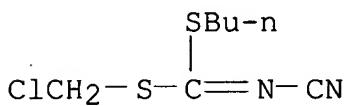
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 (CA INDEX NAME)



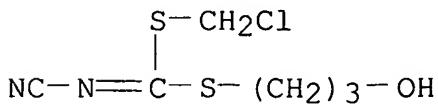
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 (CA INDEX NAME)



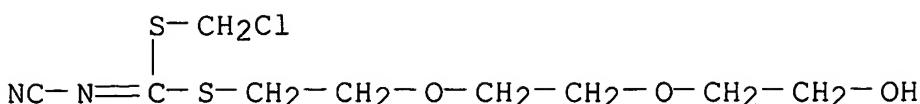
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 CN Carbonimidodithioic acid, cyano-, butyl chloromethyl ester (9CI)
 (CA INDEX NAME)



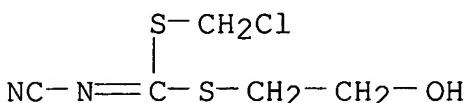
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 (9CI) (CA INDEX NAME)



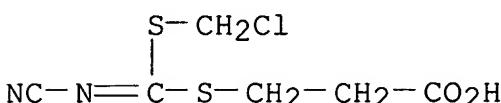
RN 852023-57-5 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl 2-[2-(2-
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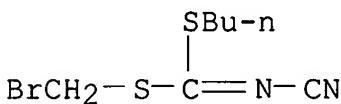
RN 852023-58-6 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl 2-hydroxyethyl ester
 (9CI) (CA INDEX NAME)



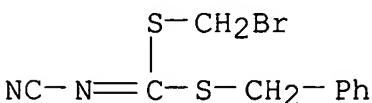
RN 852023-59-7 HCA
 CN Propanoic acid, 3-[[[(chloromethyl)thio](cyanoimino)methyl]thio]-
 (9CI) (CA INDEX NAME)



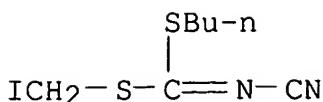
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 INDEX NAME)



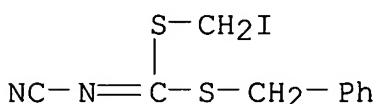
RN 852023-61-1 HCA
 CN Carbonimidodithioic acid, cyano-, bromomethyl phenylmethyl ester
 (9CI) (CA INDEX NAME)



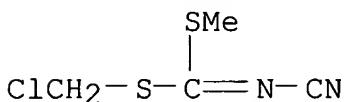
RN 852023-62-2 HCA
 CN Carbonimidodithioic acid, cyano-, butyl iodomethyl ester (9CI) (CA
 INDEX NAME)



RN 852023-63-3 HCA
 CN Carbonimidodithioic acid, cyano-, iodomethyl phenylmethyl ester
 (9CI) (CA INDEX NAME)



IT **117420-91-4P**
 (prepn. of cyanodithiocarbimates for fungicidal compns. for
leather substrates)
 RN 117420-91-4 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl methyl ester (9CI)
 (CA INDEX NAME)



IC ICM C14C009-00
 INCL 252008570
 CC 46-4 (Surface Active Agents and Detergents)
 Section cross-reference(s): 40
 ST cyanodithiocarbimate fungicidal compn **leather** substrate;
 cyanamide carbon disulfide bromohexane bromochloromethane reactant
 hexylchloromethylcyanodithiocarbimate prep
 IT *Aspergillus niger*
 Fungicides
Leather
 (prepn. of cyanodithiocarbimates for fungicidal compns. for
leather substrates)
 IT Hide
 (substrates; prepn. of cyanodithiocarbimates for fungicidal
 compns. for **leather** substrates)
 IT **Leather**
 (wet blue, substrates; prepn. of cyanodithiocarbimates for
 fungicidal compns. for **leather** substrates)
 IT **117420-92-5 117420-93-6 117420-94-7**
117420-95-8 852023-52-0 852023-53-1
852023-54-2 852023-55-3 852023-56-4

852023-57-5 852023-58-6 852023-59-7

852023-60-0 852023-61-1 852023-62-2

852023-63-3

(prepn. of cyanodithiocarbimates for fungicidal compns. for leather substrates)

IT 117420-91-4P

(prepn. of cyanodithiocarbimates for fungicidal compns. for leather substrates)

IT 74-97-5, Bromochloromethane 75-15-0, Carbon disulfide, reactions 420-04-2, Cyanamide 25495-91-4, Bromohexane

(prepn. of cyanodithiocarbimates for fungicidal compns. for leather substrates)

=> d 119 1-9 cbib abs hitstr hitrn

L19 ANSWER 1 OF 9 HCA COPYRIGHT 2006 ACS on STN

124:146010 New 1H-tetrazole-5-thiol derivatives as pesticides. II.

Cyanodithioimidocarbonic acid esters. Foldenyi, R. (Kemiai Technologia Tanszek, Vespremi Egyetem, Vesprem, H-8201, Hung.). Monatshefte fuer Chemie, 126(8/9), 1035-43 (German) 1995. CODEN: MOCMB7. ISSN: 0026-9247. Publisher: Springer.

AB Depending on the reaction conditions, tetrazoles and tetrazolines were synthesized from 1H-tetrazol-5-thiol derivs. The title compds. were prep'd. from 1-alkyl-1,2-dihydro-5H-tetrazole-5-thiones or 1H-tetrazol-5-thiols and alkyl cyanodithioimidocarbonates or chloromethyl alkyl cyanimidodithiocarbonates. The target compds. were thus alkyl tetrazolylmethyl cyanocarbonimidodithioates and alkyl (tetrazolylthio)methyl cyanocarbonimidodithioates. Many of them show fungicide activity.

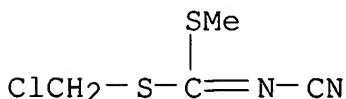
IT 117420-91-4, Chloromethyl methyl cyanimidodithiocarbonate

117420-92-5 117420-93-6 120958-20-5

(prepn. of tetrazolylmethyl and (tetrazolylthio)methyl cyanocarbonimidodithioates as pesticides)

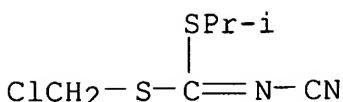
RN 117420-91-4 HCA

CN Carbonimidodithioic acid, cyano-, chloromethyl methyl ester (9CI) (CA INDEX NAME)

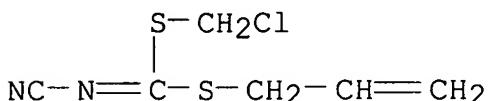


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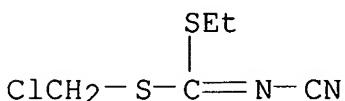
CN Carbonimidodithioic acid, cyano-, chloromethyl 1-methylethyl ester (9CI) (CA INDEX NAME)



RN 117420-93-6 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl 2-propenyl ester
 (9CI) (CA INDEX NAME)



RN 120958-20-5 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl ethyl ester (9CI)
 (CA INDEX NAME)



IT **117420-91-4**, Chloromethyl methyl cyanimidodithiocarbonate
117420-92-5 117420-93-6 120958-20-5
 (prepn. of tetrazolylmethyl and (tetrazolylthio)methyl
 cyanocarbonimidodithioates as pesticides)

L19 ANSWER 2 OF 9 HCA COPYRIGHT 2006 ACS on STN

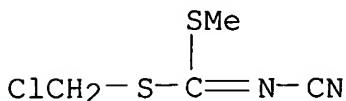
116:17065 A new class of cyanimidodithiocarbonates with fungicidal and
 bactericidal activity. Fieseler, C.; Walek, W.; Thust, U. (Abt.
 Biol. Anwendungsforch., VEB Chemiekomb., Bitterfeld, 4400,
 Germany). Tagungsbericht - Akademie der
 Landwirtschaftswissenschaften, 291(Syst. Fungic. Antifungal Compd.,
 Vol. 2), 317-21 (English) 1990. CODEN: TALAEW.

AB Cyanimidodithiocarbonates (I) of the general formula $\text{XCH}_2\text{S}(\text{RS})\text{C:NCN}$,
 where $\text{X} = \text{H, Cl, I}$; $\text{R} = \text{alkyl, allyl and benzyl}$ are fungicides and
 bactericides, and their activity depended on their structure. The
 activity of these compds. was tested against *Erwinia carotovorum*,
Pullularia pullulans, *Penicillium funiculosum*, etc. I can be used
 as wood preservatives.

IT **117420-91-4 117420-92-5 117420-93-6**
117420-94-7 117420-95-8 120958-20-5
129024-90-4
 (bactericidal and fungicidal activity of, structure in relation
 to)

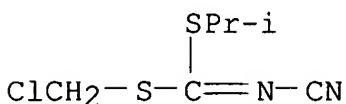
RN 117420-91-4 HCA

CN Carbonimidodithioic acid, cyano-, chloromethyl methyl ester (9CI)
(CA INDEX NAME)



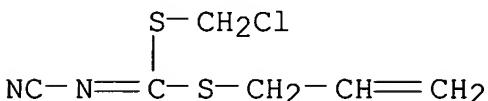
RN 117420-92-5 HCA

CN Carbonimidodithioic acid, cyano-, chloromethyl 1-methylethyl ester
(9CI) (CA INDEX NAME)



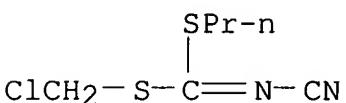
RN 117420-93-6 HCA

CN Carbonimidodithioic acid, cyano-, chloromethyl 2-propenyl ester
(9CI) (CA INDEX NAME)



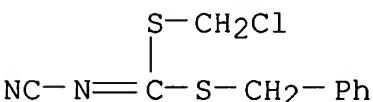
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CN Carbonimidodithioic acid, cyano-, chloromethyl propyl ester (9CI)
(CA INDEX NAME)



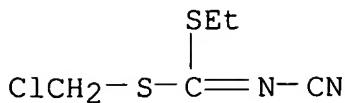
RN 117420-95-8 HCA

CN Carbonimidodithioic acid, cyano-, chloromethyl phenylmethyl ester
(9CI) (CA INDEX NAME)

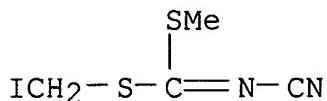


RN 120958-20-5 HCA

CN Carbonimidodithioic acid, cyano-, chloromethyl ethyl ester (9CI)
(CA INDEX NAME)



RN 129024-90-4 HCA
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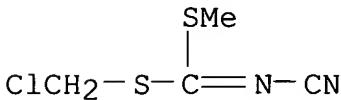
IT 117420-91-4 117420-92-5 117420-93-6
 117420-94-7 117420-95-8 120958-20-5
 129024-90-4
 (bactericidal and fungicidal activity of, structure in relation to)

L19 ANSWER 3 OF 9 HCA COPYRIGHT 2006 ACS on STN
 113:134223 Microbicides for aqueous polymer dispersions for coatings.
 Walek, Wolfgang; Pfeiffer, Hans Dieter; Benecke, Barbara; Klaeger, Christel; Klaeger, Hans Dieter; Naumann, Jutta; Thust, Ulf; Trautner, Kurt (VEB Chemiekombinat Bitterfeld, Ger. Dem. Rep.). Ger. (East) DD 275471 A1 19900124, 4 pp. (German). CODEN: GEXXA8.

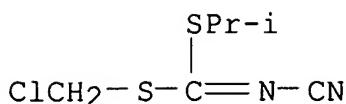
APPLICATION: DD 1988-319707 19880912.
 AB The cyanamide derivs. $\text{ClCH}_2\text{SC}(\text{SR})\text{:NCN}$ (R = lower alkyl or alkenyl) are microbicides for aq. poly(vinyl acetate) or polyacrylate dispersion for coatings. A polymer dispersion contg. 0.05 $\text{ClCH}_2\text{SC}(\text{SMe})\text{:NCN}$ was cultured with Sabouraud medium (10 days, 22-24.degree.) or thioglycolate medium (910 days, 30-32.degree.), resulting in no nuclei in either medium; vs. nuclei in both with no microbicide or with 0.05 benzisothiazolone as microbicide.

IT 117420-91-4 117420-92-5 117420-93-6
 (microbicides, for aq. dispersion coatings)

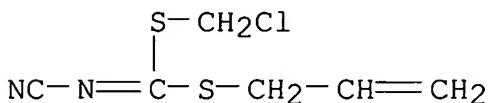
RN 117420-91-4 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl methyl ester (9CI) (CA INDEX NAME)



RN 117420-92-5 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl 1-methylethyl ester (9CI) (CA INDEX NAME)



RN 117420-93-6 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl 2-propenyl ester
 (9CI) (CA INDEX NAME)



IT 117420-91-4 117420-92-5 117420-93-6
 (microbicides, for aq. dispersion coatings)

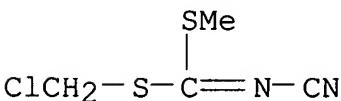
L19 ANSWER 4 OF 9 HCA COPYRIGHT 2006 ACS on STN

113:110949 Cyanimidothiocarbonates as wood preservatives. Walek, Wolfgang; Naumann, Jutta; Pfeiffer, Hans Dieter; Thust, Ulf; Trautner, Kurt; Fieseler, Christine; Heschel, Michael; Hesse, Reiner; Kirk, Horst; Mielke, Dietmar (VEB Chemiekombinat Bitterfeld, Ger. Dem. Rep.). Ger. (East) DD 275433 A1 19900124, 4 pp. (German). CODEN: GEXXA8. APPLICATION: DD 1988-319708 19880912.

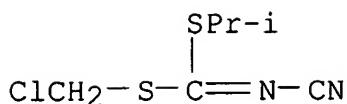
AB The cyanimidothiocarbonates $\text{XCH}_2\text{SC}(\text{SR})\text{:NC}$. tplbond.N (R = alkyl, alkenyl, aralkyl; X = halo), formulated as usual, are wood preservatives. A compn. comprised $\text{ClCH}_2\text{SC}(\text{SMe})\text{:NC}$. tplbond.N 0.5, toluene 10, gasoline 76, linseed oil 10, alkyl resin 3 and desiccant 0.5%.

IT 117420-91-4 117420-92-5 117420-93-6
 117420-94-7 117420-95-8 120958-20-5
 (wood preservative)

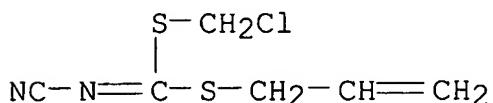
RN 117420-91-4 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl methyl ester (9CI) (CA INDEX NAME)



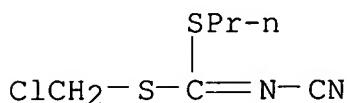
RN 117420-92-5 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl 1-methylethyl ester (9CI) (CA INDEX NAME)



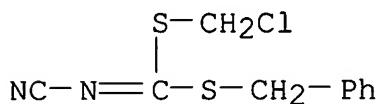
RN 117420-93-6 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl 2-propenyl ester
 (9CI) (CA INDEX NAME)



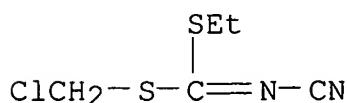
RN 117420-94-7 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl propyl ester (9CI)
 (CA INDEX NAME)



RN 117420-95-8 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl phenylmethyl ester
 (9CI) (CA INDEX NAME)



RN 120958-20-5 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl ethyl ester (9CI)
 (CA INDEX NAME)



IT 117420-91-4 117420-92-5 117420-93-6
 117420-94-7 117420-95-8 120958-20-5
 (wood preservative)

L19 ANSWER 5 OF 9 HCA COPYRIGHT 2006 ACS on STN
 113:110911 Cyanimidodithiocarbonates as agrochemical bactericides and

fungicides. Walek, Wolfgang; Fieseler, Christine; Otte, Volker; Schiewald, Ekkehard; Britz, Peter; Kochmann, Werner; Schulz, Heinz; Steinke, Walter (VEB Chemiekombinat Bitterfeld, Ger. Dem. Rep.). Ger. (East) DD 275391 A1 19900124, 7 pp. (German). CODEN: GEXXA8. APPLICATION: DD 1988-319706 19880912.

AB The thioimidodithiocarbonates $XCH_2SC(SR):NC$. tplbond.N ($R = \text{alkyl, alkenyl, aralkyl}$; $X = \text{halo}$) are fungicides and bactericides against seed- and soil-borne plant pathogens. $ClCH_2SC(SMe):NC$. tplbond.N totally inhibited the growth of *Alternaria tenuis*, *Botrytis cinerea* and *Fusarium culmorum*, *in vitro*.

IT **117420-91-4 117420-92-5 117420-93-6**

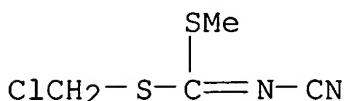
117420-94-7 117420-95-8 120958-20-5

129024-90-4

(bactericide and fungicide, agrochem.)

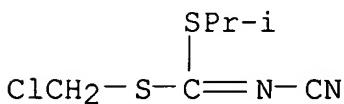
RN 117420-91-4 HCA

CN Carbonimidodithioic acid, cyano-, chloromethyl methyl ester (9CI) (CA INDEX NAME)



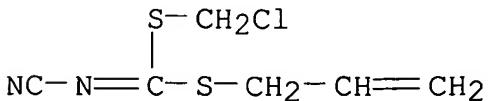
RN 117420-92-5 HCA

CN Carbonimidodithioic acid, cyano-, chloromethyl 1-methylethyl ester (9CI) (CA INDEX NAME)



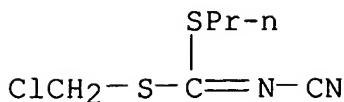
RN 117420-93-6 HCA

CN Carbonimidodithioic acid, cyano-, chloromethyl 2-propenyl ester (9CI) (CA INDEX NAME)

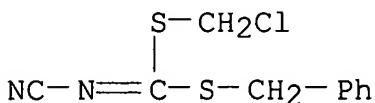


RN 117420-94-7 HCA

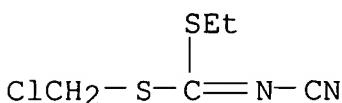
CN Carbonimidodithioic acid, cyano-, chloromethyl propyl ester (9CI) (CA INDEX NAME)



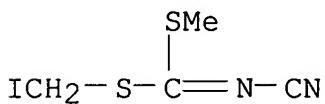
RN 117420-95-8 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl phenylmethyl ester
 (9CI) (CA INDEX NAME)



RN 120958-20-5 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl ethyl ester (9CI)
 (CA INDEX NAME)



RN 129024-90-4 HCA
 CN Carbonimidodithioic acid, cyano-, iodomethyl methyl ester (9CI) (CA
 INDEX NAME)



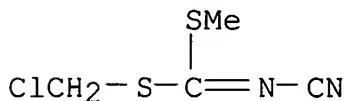
IT 117420-91-4 117420-92-5 117420-93-6
 117420-94-7 117420-95-8 120958-20-5
 129024-90-4
 (bactericide and fungicide, agrochem.)

L19 ANSWER 6 OF 9 HCA COPYRIGHT 2006 ACS on STN
 111:7422 Procedure for preparing esters of cyanimidodithiocarbonic acid.
 Walek, Wolfgang; Pallas, Manfred; Steinke, Walter; Kochmann, Werner;
 Schoeppe, Guenter (VEB Chemiekombinat Bitterfeld, Ger. Dem. Rep.).
 Ger. (East) DD 256693 A1 19880518, 4 pp. (German). CODEN: GEXXA8.

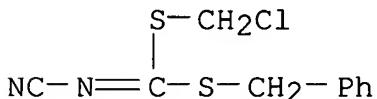
APPLICATION: DD 1985-281057 19850927.
 AB A procedure for the prepn. of $\text{R}_2\text{XCH}_2\text{SC}(\text{SR}1):\text{NCN}$ (I; R1 = alkyl,
 alkenyl, aralkyl; R2 = aryl, hetaryl optionally substituted; X = O,
 S), useful as intermediates, was characterized in that one first
 chloromethylates $\text{KSC}(\text{SR}1):\text{NCN}$ with 20-30 times mol. excess of

BrCH₂Cl in the presence of 0.5-2 mol% a phase-transfer catalyst, such as PhCH₂N⁺Et₃Br⁻ at 30-60.degree. and subsequently reacts the obtained ClCH₂SC(SR1):NCN with a alkali thiolates or phenolates. KSC(SMe):NCN in BrCH₂Cl was treated with PhCH₂N⁺Et₃Br⁻ and stirred 15 h at 35-45.degree. to give 55-72% ClCH₂SC(SMe):NCN which reacted with 2-mercaptopbenzothiazole in the presence of K₂CO₃ in refluxing Me₂CO in 4 h to give 65.5% I (R₁ = Me, R₂ = 2-benzothiazolyl, X = S).

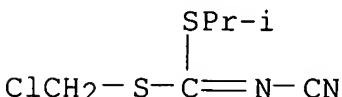
IT **117420-91-4P**, Chloromethyl methyl cyanimidodithiocarbonate
117420-95-8P, Benzyl chloromethyl cyanimidodithiocarbonate
 (prepn. and thiolation or phenolation of)
 RN 117420-91-4 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl methyl ester (9CI)
 (CA INDEX NAME)



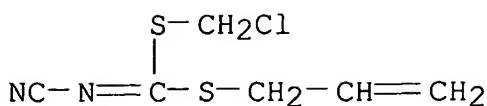
RN 117420-95-8 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl phenylmethyl ester (9CI) (CA INDEX NAME)



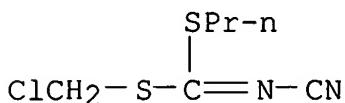
IT **117420-92-5P**, Chloromethyl isopropyl cyanimidodithiocarbonate **117420-93-6P**, Allyl chloromethyl cyanimidodithiocarbonate **117420-94-7P**, Chloromethyl propyl cyanimidodithiocarbonate **120958-20-5P**, Chloromethyl ethyl cyanimidodithiocarbonate
 (prepn. of)
 RN 117420-92-5 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl 1-methylethyl ester (9CI) (CA INDEX NAME)



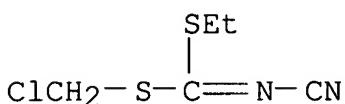
RN 117420-93-6 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl 2-propenyl ester (9CI) (CA INDEX NAME)



RN 117420-94-7 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl propyl ester (9CI)
 (CA INDEX NAME)



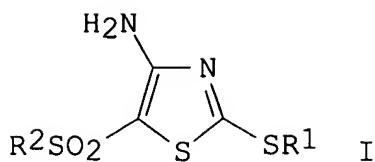
RN 120958-20-5 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl ethyl ester (9CI)
 (CA INDEX NAME)



IT **117420-91-4P**, Chloromethyl methyl cyanimidodithiocarbonate
117420-95-8P, Benzyl chloromethyl cyanimidodithiocarbonate
 (prepn. and thiolation or phenolation of)
 IT **117420-92-5P**, Chloromethyl isopropyl
 cyanimidodithiocarbonate **117420-93-6P**, Allyl chloromethyl
 cyanimidodithiocarbonate **117420-94-7P**, Chloromethyl propyl
 cyanimidodithiocarbonate **120958-20-5P**, Chloromethyl ethyl
 cyanimidodithiocarbonate
 (prepn. of)

L19 ANSWER 7 OF 9 HCA COPYRIGHT 2006 ACS on STN
 110:95216 Preparation of 4-amino-5-sulfonylthiazoles. Walek, Wolfgang;
 Heschel, Michael; Schiewald, Ekkehard; Steinke, Walter; Kemter,
 Peter (VEB Chemiekombinat Bitterfeld, Ger. Dem. Rep.). Ger. (East)
 DD 253424 A1 19880120, 5 pp. (German). CODEN: GEXXA8.
 APPLICATION: DD 1986-295539 19861024.

GI

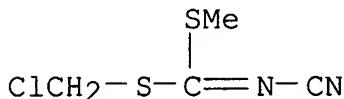


AB The title compds. [I; R₁ = alkyl, alkenyl, aralkyl; R₂ = alkyl, cycloalkyl, aryl, (substituted) heteroaryl] were prep'd. by cyclocondensation of ClCH₂S(R₁S)C:NC.tplbond.N (II) with R₂SO₂M (III) (M = alkali- or alk. earth metal) in protic or aprotic solvents or their mixts. with H₂O, at room temp. to reflux and optionally in the presence of KI. Thus, II (R₁ = Me) and III (R₂ = Ph, M = Na) were refluxed 30 min in EtOH to give 60% I (R₁ = Me, R₂ = Ph).

IT **117420-91-4 117420-92-5**
(cyclocondensation of, with sodium benzenesulfinate)

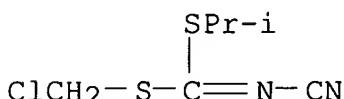
RN 117420-91-4 HCA

CN Carbonimidodithioic acid, cyano-, chloromethyl methyl ester (9CI)
(CA INDEX NAME)



RN 117420-92-5 HCA

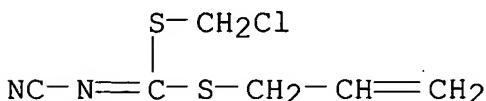
CN Carbonimidodithioic acid, cyano-, chloromethyl 1-methylethyl ester (9CI) (CA INDEX NAME)



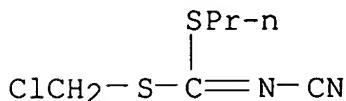
IT **117420-93-6 117420-94-7 117420-95-8**
(cyclocondensation of, with sodium toluenesulfinate)

RN 117420-93-6 HCA

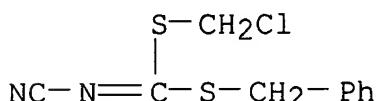
CN Carbonimidodithioic acid, cyano-, chloromethyl 2-propenyl ester (9CI) (CA INDEX NAME)



RN 117420-94-7 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl propyl ester (9CI)
 (CA INDEX NAME)



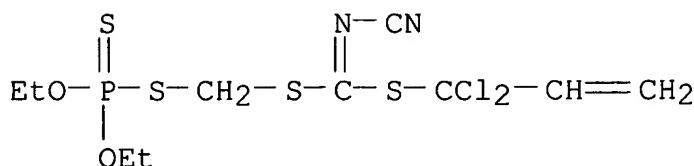
RN 117420-95-8 HCA
 CN Carbonimidodithioic acid, cyano-, chloromethyl phenylmethyl ester (9CI) (CA INDEX NAME)



IT **117420-91-4 117420-92-5**
 (cyclocondensation of, with sodium benzenesulfinate)
 IT **117420-93-6 117420-94-7 117420-95-8**
 (cyclocondensation of, with sodium toluenesulfinate)

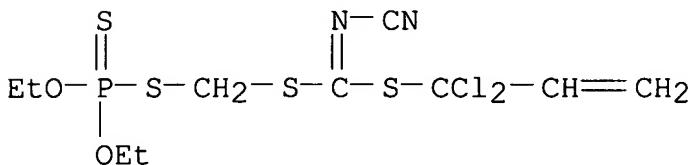
L19 ANSWER 8 OF 9 HCA COPYRIGHT 2006 ACS on STN
 81:164783 Insecticidal phosphonyl cyanodithioimido carbonates. Gutman, Arnold D. (Stauffer Chemical Co.). U.S. US 3810982 19740514, 4 pp. (English). CODEN: USXXAM. APPLICATION: US 1972-294138 19721002.
 AB (RO)R1P(:X)SR2SC(SR3):NC.tplbond.N (R = Me or Et; R1 = MeO, or EtO; X = O or S; R2 = C1-4 alkylene; R3 = Me, Et, C2-4 alkenyl, C2-4 mono- or dihaloalkenyl). Thus O,O-diethylphosphorodithioylethyl methylcyanodithioimido carbonate (R = Et, R1 = EtO, X = S, R2 = CH₂CH₂, R3 = Me) [43034-75-9] had in soil LD₅₀ 0.3 ppm for housefly larvae, in the lab.

IT **43034-74-8**
 (insecticide)
 RN 43034-74-8 HCA
 CN 6-Oxa-2,4-dithia-5-phosphaoctanimidothioic acid, N-cyano-5-ethoxy-, 1,1-dichloro-2-propenyl ester, 5-sulfide (9CI) (CA INDEX NAME)



IT **43034-74-8**
 (insecticide)

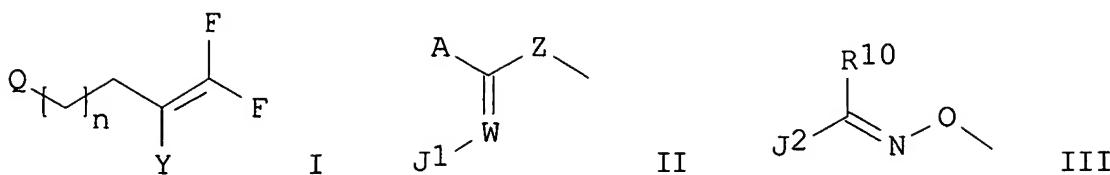
L19 ANSWER 9 OF 9 HCA COPYRIGHT 2006 ACS on STN
 79:104955 Phosphoryl cyanodithioimido carbonates. Gutman, Arnold D.
 (Stauffer Chemical Co.). U.S. US 3755506 19730828, 4 pp.
 (English). CODEN: USXXAM. APPLICATION: US 1971-137000 19710423.
 AB (KS)2C:NCN, prep'd. from KOH, CS₂ and H₂N CN, reacted with
 R(R₁O)P(S)S(CH₂)_nCl, then with R₃Br (R₃ = e.g., CH₂:CHCH₂,
 4-ClC₆H₄CH₂, 2,4-Cl₂C₆H₃CH₂) to give R(R₁O)P(S)S(CH₂)_nSC(SR₃):NCN (R
 = Me, Et; R₁ = EtO, Et, MeO; R₃ = CH₂:CHCH₂, 4-ClC₆H₄CH₂,
 2,4-Cl₂C₆H₃CH₂; n = 1,2), useful as insecticides.
 IT **43034-74-8P**
 (prepn. of)
 RN 43034-74-8 HCA
 CN 6-Oxa-2,4-dithia-5-phosphaoctanimidothioic acid, N-cyano-5-ethoxy-,
 1,1-dichloro-2-propenyl ester, 5-sulfide (9CI) (CA INDEX NAME)



IT **43034-74-8P**
 (prepn. of)

=> d 120 1,2,4-11 cbib abs hitstr it

L20 ANSWER 1 OF 11 HCA COPYRIGHT 2006 ACS on STN
 143:266600 Preparation of insecticidal and nematocidal difluoroalkene
 derivatives. Crews, Alvin Donald, Jr.; Currie, Martin James; Hong,
 Wongpyo; Lahm, George Philip; McCann, Stephen Frederick; Song, Ying;
 Stevenson, Thomas Martin; Xu, Ming (E. I. Dupont de Nemours and
 Company, USA). PCT Int. Appl. WO 2005080327 A1 20050901, 132 pp.
 DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR,
 BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG,
 ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,
 KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
 NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL,
 SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW;
 RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA,
 GB, GR, IE, IS, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR.
 (English). CODEN: PIXXD2. APPLICATION: WO 2005-US5581 20050217.
 PRIORITY: US 2004-2004/PV54570U 20040218; US 2004-2004/PV554100
 20040318.



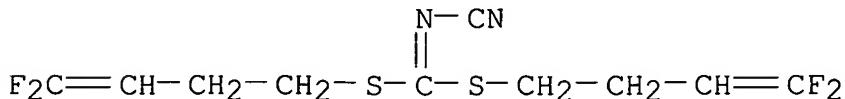
AB The title compds. I [Q = II or III; Y = H, F, Cl or Me; A = CN, alkyl, OR1a, SR1a, NR1aR2a or CONR1bR2b; Z = O, S or NR3; W = N or CR4; J1, J2 = alkyl, alkenyl, cycloalkyl, G, etc.; G = (un)substituted Ph, naphthyl, 5-6 membered heteroaryl or aryl 8-10 membered fused heterobicyclic ring system; R1a, R1b = H, G, CN, etc.; R2a, R2b = H, alkyl, cycloalkyl, etc.; R3 = H, alkyl, cycloalkyl, etc.; R4 = H, alkyl, CN; R10 = H, alkyl, cycloalkyl, etc.; n = 1, 3 or 5; with provisos], which are useful for controlling invertebrate pests (biol. data given), were prep'd. E.g., a 2-step synthesis of 4,4-difluoro-3-butenyl-N'-(2-fluorophenyl)-N,N-dimethylcarbamimidothioate, starting from 2-fluorophenyl isothiocyanate and dimethylamine, was given. Also disclosed are methods for controlling an invertebrate pest comprising contacting the invertebrate pest or its environment with a biol. effective amt. of a compd. I, an N-oxide thereof or a suitable salt of the compd. (e.g., as a compn. described herein). This invention also pertains to a compn. for controlling an invertebrate pest comprising a biol. effective amt. of a compd. I, an N-oxide thereof or a suitable salt of the compd. and at least one addnl. component selected from the group consisting of a surfactant, a solid diluent and a liq. diluent.

IT **863775-75-1P**

(prepn. of insecticidal and nematocidal difluoroalkene derivs.)

RN 863775-75-1 HCA

CN Carbonimidodithioic acid, cyano-, bis(4,4-difluoro-3-butenyl) ester (9CI) (CA INDEX NAME)



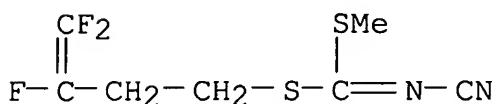
IT **115069-56-2P 863775-73-9P 863777-23-5P**
863777-24-6P 863777-28-0P 863777-29-1P
863777-30-4P 863777-31-5P 863777-32-6P
863777-33-7P 863777-34-8P 863777-35-9P
863777-36-0P 863777-37-1P 863777-38-2P
863777-39-3P 863777-42-8P 863777-43-9P
863777-44-0P 863777-45-1P 863777-46-2P

863777-47-3P 863777-88-2P 863777-89-3P

(prepn. of insecticidal and nematocidal difluoroalkene derivs.)

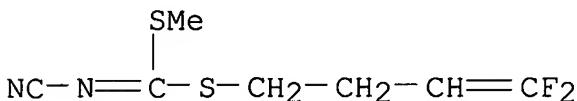
RN 115069-56-2 HCA

CN Carbonimidodithioic acid, cyano-, methyl 3,4,4-trifluoro-3-butenyl ester (9CI) (CA INDEX NAME)



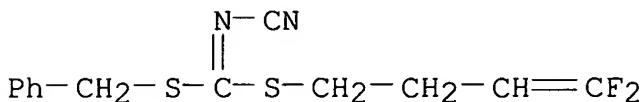
RN 863775-73-9 HCA

CN Carbonimidodithioic acid, cyano-, 4,4-difluoro-3-butenyl methyl ester (9CI) (CA INDEX NAME)



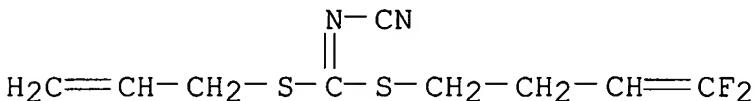
RN 863777-23-5 HCA

CN Carbonimidodithioic acid, cyano-, 4,4-difluoro-3-butenyl phenylmethyl ester (9CI) (CA INDEX NAME)



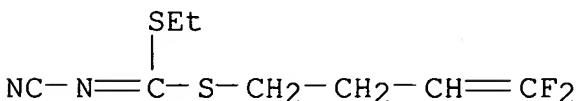
RN 863777-24-6 HCA

CN Carbonimidodithioic acid, cyano-, 4,4-difluoro-3-butenyl 2-propenyl ester (9CI) (CA INDEX NAME)



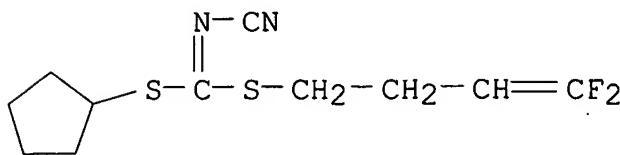
RN 863777-28-0 HCA

CN Carbonimidodithioic acid, cyano-, 4,4-difluoro-3-butenyl ethyl ester (9CI) (CA INDEX NAME)



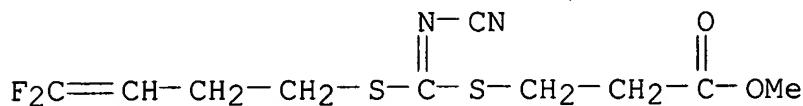
RN 863777-29-1 HCA

CN Carbonimidodithioic acid, cyano-, cyclopentyl 4,4-difluoro-3-butenyl ester (9CI) (CA INDEX NAME)



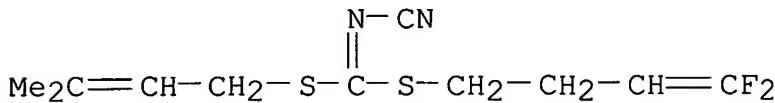
RN 863777-30-4 HCA

CN Propanoic acid, 3-[[(cyanoimino) [(4,4-difluoro-3-butenyl)thio]methyl]thio]-, methyl ester (9CI) (CA INDEX NAME)



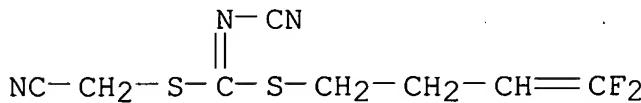
RN 863777-31-5 HCA

CN Carbonimidodithioic acid, cyano-, 4,4-difluoro-3-butenyl 3-methyl-2-butenyl ester (9CI) (CA INDEX NAME)



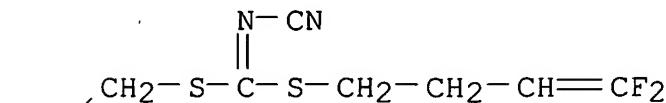
RN 863777-32-6 HCA

CN Carbonimidodithioic acid, cyano-, cyanomethyl 4,4-difluoro-3-butenyl ester (9CI) (CA INDEX NAME)



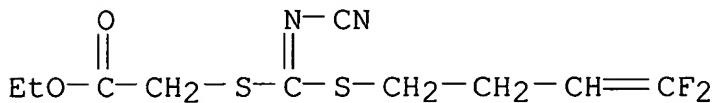
RN 863777-33-7 HCA

CN Carbonimidodithioic acid, cyano-, cyclobutylmethyl 4,4-difluoro-3-butenyl ester (9CI) (CA INDEX NAME)



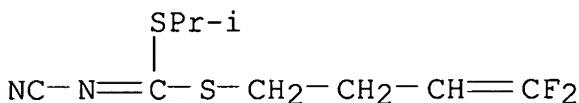
RN 863777-34-8 HCA

CN Acetic acid, [(cyanoimino)[(4,4-difluoro-3-butenyl)thio]methyl]thio]-, ethyl ester (9CI) (CA INDEX NAME)



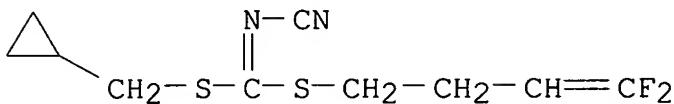
RN 863777-35-9 HCA

CN Carbonimidodithioic acid, cyano-, 4,4-difluoro-3-butenyl 1-methylethyl ester (9CI) (CA INDEX NAME)



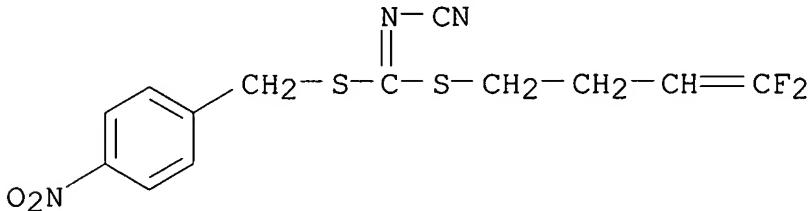
RN 863777-36-0 HCA

CN Carbonimidodithioic acid, cyano-, cyclopropylmethyl 4,4-difluoro-3-butenyl ester (9CI) (CA INDEX NAME)



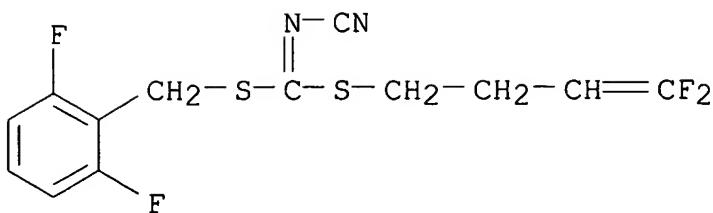
RN 863777-37-1 HCA

CN Carbonimidodithioic acid, cyano-, 4,4-difluoro-3-butenyl (4-nitrophenyl)methyl ester (9CI) (CA INDEX NAME)

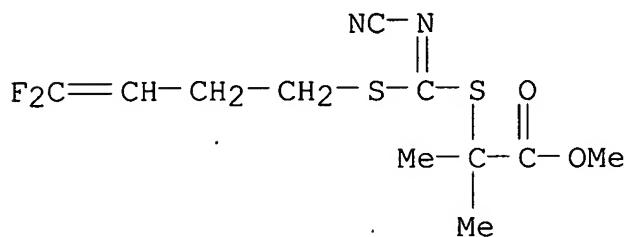


RN 863777-38-2 HCA

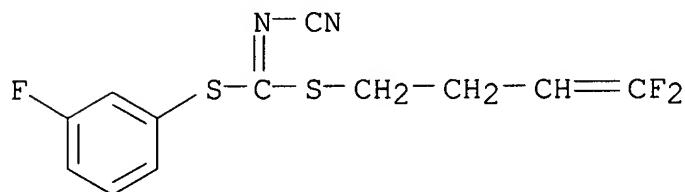
CN Carbonimidodithioic acid, cyano-, 4,4-difluoro-3-butenyl (2,6-difluorophenyl)methyl ester (9CI) (CA INDEX NAME)



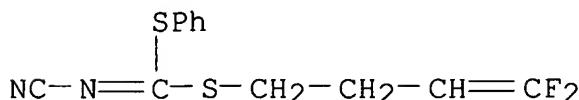
RN 863777-39-3 HCA
 CN Propanoic acid, 2-[(cyanoimino)[(4,4-difluoro-3-but enyl)thio]methyl]thio]-2-methyl-, methyl ester (9CI) (CA INDEX NAME)



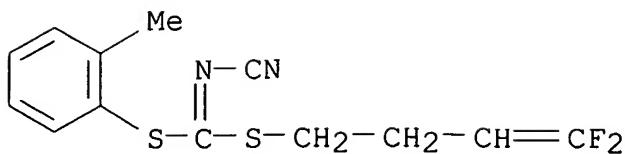
RN 863777-42-8 HCA
 CN Carbonimidodithioic acid, cyano-, 4,4-difluoro-3-butenyl 3-fluorophenyl ester (9CI) (CA INDEX NAME)



RN 863777-43-9 HCA
 CN Carbonimidodithioic acid, cyano-, 4,4-difluoro-3-butenyl phenyl ester (9CI) (CA INDEX NAME)

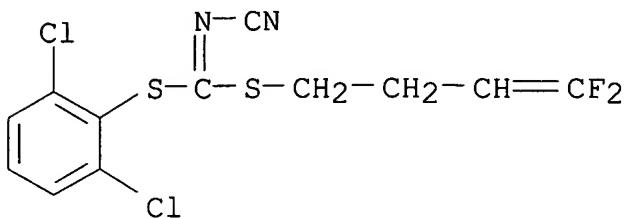


RN 863777-44-0 HCA
 CN Carbonimidodithioic acid, cyano-, 4,4-difluoro-3-butenyl 2-methylphenyl ester (9CI) (CA INDEX NAME)



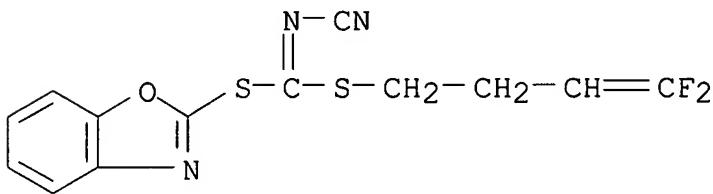
RN 863777-45-1 HCA

CN Carbonimidodithioic acid, cyano-, 2,6-dichlorophenyl 4,4-difluoro-3-butenyl ester (9CI) (CA INDEX NAME)



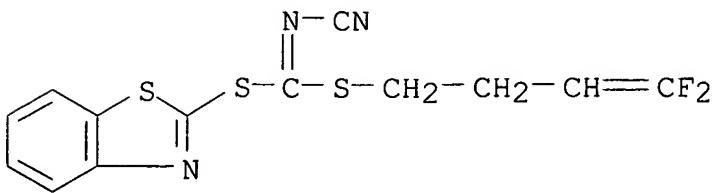
RN 863777-46-2 HCA

CN Carbonimidodithioic acid, cyano-, 2-benzoxazolyl 4,4-difluoro-3-butenyl ester (9CI) (CA INDEX NAME)



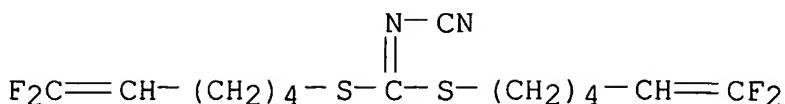
RN 863777-47-3 HCA

CN Carbonimidodithioic acid, cyano-, 2-benzothiazolyl 4,4-difluoro-3-butenyl ester (9CI) (CA INDEX NAME)



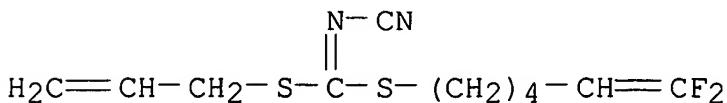
RN 863777-88-2 HCA

CN Carbonimidodithioic acid, cyano-, bis(6,6-difluoro-5-hexenyl) ester (9CI) (CA INDEX NAME)



RN 863777-89-3 HCA

CN Carbonimidodithioic acid, cyano-, 6,6-difluoro-5-hexenyl 2-propenyl ester (9CI) (CA INDEX NAME)



IT Insecticides

Nematocides

(prepn. of insecticidal and nematocidal difluoroalkene derivs.)

IT **863775-75-1P**

(prepn. of insecticidal and nematocidal difluoroalkene derivs.)

IT **115069-56-2P** 863775-69-3P 863775-70-6P 863775-71-7P

863775-72-8P **863775-73-9P** 863775-74-0P 863775-76-2P

863775-77-3P 863775-78-4P 863775-79-5P 863775-80-8P

863775-81-9P 863775-82-0P 863775-83-1P 863775-84-2P

863775-85-3P 863775-86-4P 863775-87-5P 863775-88-6P

863775-89-7P 863775-90-0P 863775-91-1P 863775-92-2P

863775-93-3P 863775-94-4P 863775-95-5P 863775-96-6P

863775-97-7P 863775-98-8P 863775-99-9P 863776-00-5P

863776-01-6P 863776-02-7P 863776-03-8P 863776-04-9P

863776-05-0P 863776-06-1P 863776-07-2P 863776-08-3P

863776-09-4P 863776-10-7P 863776-11-8P 863776-12-9P

863776-13-0P 863776-14-1P 863776-15-2P 863776-16-3P

863776-17-4P 863776-18-5P 863776-19-6P 863776-20-9P

863776-21-0P 863776-22-1P 863776-23-2P 863776-24-3P

863776-25-4P 863776-26-5P 863776-27-6P 863776-28-7P

863776-29-8P 863776-30-1P 863776-31-2P 863776-32-3P

863776-33-4P 863776-34-5P 863776-35-6P 863776-36-7P

863776-37-8P 863776-38-9P 863776-39-0P 863776-40-3P

863776-41-4P 863776-42-5P 863776-43-6P 863776-44-7P

863776-45-8P 863776-46-9P 863776-47-0P 863776-48-1P

863776-49-2P 863776-50-5P 863776-51-6P 863776-52-7P

863776-53-8P 863776-54-9P 863776-55-0P 863776-56-1P

863776-57-2P 863776-58-3P 863776-59-4P 863776-60-7P

863776-61-8P 863776-62-9P 863776-63-0P 863776-64-1P

863776-65-2P 863776-66-3P 863776-67-4P 863776-68-5P

863776-69-6P 863776-70-9P 863776-71-0P 863776-72-1P

863776-73-2P 863776-74-3P 863776-75-4P 863776-76-5P

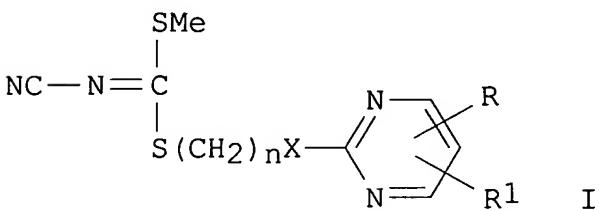
863776-77-6P 863776-78-7P 863776-79-8P 863776-80-1P

863776-81-2P	863776-82-3P	863776-83-4P	863776-84-5P
863776-85-6P	863776-86-7P	863776-87-8P	863776-88-9P
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863777-01-9P	863777-02-0P	863777-03-1P	863777-04-2P
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863777-40-6P	863777-41-7P	863777-42-8P	
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863777-49-5P	863777-50-8P	863777-51-9P	863777-52-0P
863777-53-1P	863777-54-2P	863777-55-3P	863777-56-4P
863777-57-5P	863777-58-6P	863777-59-7P	863777-60-0P
863777-61-1P	863777-62-2P	863777-63-3P	863777-64-4P
863777-65-5P	863777-66-6P	863777-67-7P	863777-68-8P
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863777-77-9P	863777-78-0P	863777-79-1P	863777-80-4P
863777-81-5P	863777-82-6P	863777-83-7P	863777-84-8P
863777-85-9P	863777-86-0P	863777-87-1P	863777-88-2P
863777-89-3P	863777-90-6P	863777-91-7P	863777-92-8P
863777-93-9P	863777-94-0P	863777-95-1P	863777-96-2P
863777-97-3P	863777-98-4P	863777-99-5P	863778-00-1P
863778-01-2P	863778-02-3P	863778-03-4P	863778-04-5P
863778-05-6P	863778-06-7P	863778-07-8P	863778-08-9P
(prepn. of insecticidal and nematocidal difluoroalkene derivs.)			
IT 863778-09-0P	863778-10-3P	863778-11-4P	863778-12-5P
863778-13-6P	863778-14-7P	863778-15-8P	863778-16-9P
863778-17-0P	863778-18-1P	863778-19-2P	863778-20-5P
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863778-29-4P	863778-30-7P	863778-31-8P	863778-32-9P
863778-33-0P	863778-34-1P	863778-35-2P	863778-36-3P
863778-38-5P	863778-40-9P	863778-41-0P	863778-43-2P
863778-44-3P	863778-45-4P	863778-46-5P	863778-47-6P
863778-49-8P	863778-51-2P	863778-53-4P	863778-55-6P
863778-56-7P	863778-57-8P	863778-58-9P	863778-59-0P
863890-76-0P	(prepn. of insecticidal and nematocidal difluoroalkene derivs.)		

IT 420-04-2, Cyanamide 4955-82-2, 1-Cyanothioformanilide
 16182-04-0, Ethoxycarbonyl isothiocyanate 30558-43-1 38985-64-7,
 2-Fluorophenyl isothiocyanate 62220-41-1 71516-67-1
 79456-26-1, 2-Amino-3-chloro-5-trifluoromethylpyridine
 141106-52-7, 2,4-Difluorophenyl isothiocyanate 147804-02-2,
 4-Bromo-1,1-difluoro-1-butene
 (prepn. of insecticidal and nematocidal difluoroalkene derivs.)
 IT 5585-23-9P 13145-41-0P 452965-89-8P 455883-00-8P
 (prepn. of insecticidal and nematocidal difluoroalkene derivs.)

L20 ANSWER 2 OF 11 HCA COPYRIGHT 2006 ACS on STN
 126:8071 New pyrimidine derivatives of cyanimidodithiocarbonates.
 Foldenyi, R. (Dep. Chem. Technol., Univ. Veszprem, Veszprem, H-8201,
 Hung.). Monatshefte fuer Chemie, 127(6/7), 725-731 (English) 1996.
 CODEN: MOCMB7. ISSN: 0026-9247. Publisher: Springer.

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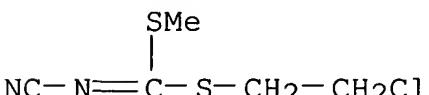


AB Several methods for the prepn. of the cyanimidodithiocarbonate pyrimidine derivs. I (X = S, n = 1-2, R = H, R1 = H, 5-Cl or R = 4-Me, R1 = 6-Me; X = O, n = 3, R = H, R1 = 5-Cl) by alkylation of NCNC(SMe)SK are reported.

IT **183808-65-3P**
 (prepn. of cyanimidodithiocarbonate pyrimidine derivs.)

RN 183808-65-3 HCA

CN Carbonimidodithioic acid, cyano-, 2-chloroethyl methyl ester (9CI)
 (CA INDEX NAME)



IT 627-30-5, 3-Chloro-1-propanol 10191-61-4 22325-27-5 38275-47-7
 79686-00-3 138197-29-2

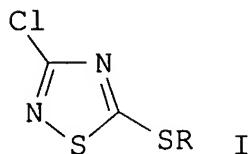
(prepn. of cyanimidodithiocarbonate pyrimidine derivs.)

IT 183808-64-2P **183808-65-3P** 183808-66-4P

IT (prepn. of cyanimidodithiocarbonate pyrimidine derivs.)
 120958-21-6P 183808-59-5P 183808-60-8P 183808-61-9P
 183808-62-0P 183808-63-1P 183808-67-5P 183808-68-6P
 183808-69-7P
 (prepn. of cyanimidodithiocarbonate pyrimidine derivs.)

L20 ANSWER 4 OF 11 HCA COPYRIGHT 2006 ACS on STN
 105:153004 Electrochemical cleavage of 3-halo-1,2,4-thiadiazoles to cyanimidothiocarbonates. Ruettinger, H. H.; Walek, W.; Matschiner, H. (VEB Chemiekombinat Bitterfeld, Bitterfeld, DDR-4400, Ger. Dem. Rep.). Journal fuer Praktische Chemie (Leipzig), 327(5), 823-8 (German) 1985. CODEN: JPCEAO. ISSN: 0021-8383. OTHER SOURCES: CASREACT 105:153004.

GI



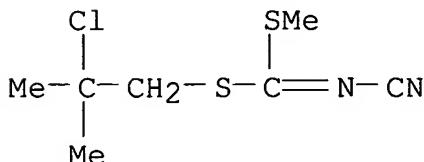
AB The thiadiazoles I (R = CH₂CMe₂Cl, 2-chlorocyclohexyl, 4-Me₂NC₆H₄, 4-HOC₆H₄, 2-thienyl, CH₂CH₂Cl, Me, CH₂CMeClCH₂Cl, CH₂CHClCH₂Cl) were prepd. by treating I (R = Cl) with the alkenes, PhOH, PhNMe₂, or thiophene. Electrolysis of I on a Al anode gave NCN:C(SMe)SR (R = CH₂CMe₂Cl, 2-chlorocyclohexyl, 4-Me₂NC₆H₄, 4-HOC₆H₄, 2-thienyl). Electrolysis of I (R = 2-chlorocyclohexyl) on a Ag anode gave NCN:C(SMe)SR and I (R = Me).

IT **79825-02-8P**

(prepn. of)

RN 79825-02-8 HCA

CN Carbonimidodithioic acid, cyano-, 2-chloro-2-methylpropyl methyl ester (9CI) (CA INDEX NAME)



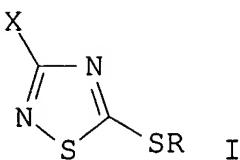
IT Ring cleavage
 (electrochem., of alkylthiothiadiazoles)

IT 74-85-1, reactions 107-05-1 108-95-2, reactions 110-02-1
 110-83-8, reactions 115-11-7, reactions 121-69-7, reactions
 563-47-3
 (alkylation by, of chlorosulfenylthiadiazole)
 IT 26542-76-7
 (alkylation of)
 IT 26542-85-8P 37159-59-4P 98816-24-1P 100477-77-8P
 104432-22-6P
 (prepn. and electrochem. ring cleavage of)
 IT 10191-72-7P 10191-90-9P 26542-82-5P **79825-02-8P**
 98816-13-8P 98816-20-7P 100346-80-3P 100477-74-5P
 100477-75-6P 100477-76-7P 104432-23-7P
 (prepn. of)

L20 ANSWER 5 OF 11 HCA COPYRIGHT 2006 ACS on STN

104:88314 N-Cyanimidodithiocarbonic acid esters. Ruettinger, Hans
Hermann; Matschiner, Hermann; Walek, Wolfgang; Kochmann, Werner;
Pallas, Manfred (VEB Chemiekombinat Bitterfeld, Ger. Dem. Rep.).
Ger. (East) DD 218356 A1 19850206, 4 pp. (German). CODEN: GEXXA8.
APPLICATION: DD 1983-251846 19830609.

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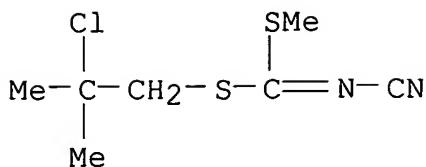


AB The title compds. RS(R'S)C:NCN (R = alkyl, haloalkyl, etc; R1 = alkyl) are prepd. by electrolysis of the thiadiazoles I (X = halo) in a polar org. solvent, followed by the addn. of an alkylating agent. Thus, I (X = Cl, R = CH₂CMe₂Cl) was electrolyzed using a compartmentalized cell with a Pb cathode, ion-exchanger diaphragm and Pt anode, at 1.6 V, against a calomel electrode. AcONa in MeOH was the anolyte. MeI was added subsequently, to give ClMe₂CCH₂S(MeS)C:NCN.

IT **79825-02-8P**
(prepn. of, by electrolysis of halo(chloromethylpropylthio)thiadiazole)

RN 79825-02-8 HCA

CN Carbonimidodithioic acid, cyano-, 2-chloro-2-methylpropyl methyl ester (9CI) (CA INDEX NAME)



IT Electrolysis
 (of haloalkylthiadiazoles, cyanimidodithiocarbonates by)

IT 74-88-4, uses and miscellaneous
 (as methylation agent, in prepn. of cyanimidodithiocarbonates)

IT 98816-24-1
 (electrolysis of, Me thienyl cyanimidodithiocarbonate by)

IT 37159-59-4
 (electrolysis of, chlorocyclohexyl Me cyanimidodithiocarbonate
 by)

IT 26542-85-8
 (electrolysis of, chloromethylpropyl Me cyanimidodithiocarbonate
 by)

IT 98816-20-7
 (electrolysis of, chloromethylpropyl Me cyanimidodithiocarbonates
 by)

IT 100477-77-8
 (electrolysis of, dimethylaminophenyl Me cyanimidodithiocarbonate
 by)

IT 100477-74-5P
 (prepn. of, by electrolysis of chloro(chlorocyclohexylthio)thiadi-
 azole)

IT 100477-75-6P
 (prepn. of, by electrolysis of chloro(dimethylaminophenylthio)thi-
 adazole)

IT 100477-76-7P
 (prepn. of, by electrolysis of chlorothiadiazolyl thienyl
 sulfide)

IT 79825-02-8P
 (prepn. of, by electrolysis of halo(chloromethylpropylthio)thiadi-
 azole)

L20 ANSWER 6 OF 11 HCA COPYRIGHT 2006 ACS on STN
 95:202996 Electrochemical behavior of esters of N-
 cyanimidodithiocarbonic acid. Ruettinger, Hans Hermann; Matschiner,
 Hermann; Walek, Wolfgang (Sekt. Chem., Martin-Luther-Univ.
 Halle-Wittenberg, Halle/Saale, 4020, Ger. Dem. Rep.). Zeitschrift
 fuer Chemie, 21(9), 330-1 (German) 1981. CODEN: ZECEAL. ISSN:
 0044-2402.

AB NCN:C(SR)SMe (R = alkyl, allyl, propargyl, PhCH₂, Me₂CClCH₂,
 Eto₂CCH₂, H₂NCOCH₂) and [NCN:C(SR)S]2CH₂ (R = Me, Et, PhCH₂,

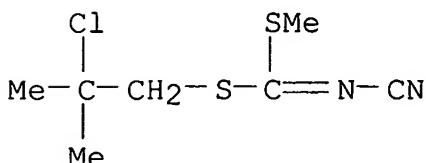
PhCOCH₂) undergo an irreversible polarog. reaction in which an S-R bond is broken. Half-wave potentials are listed.

IT 79825-02-8

(polarog. of)

RN 79825-02-8 HCA

CN Carbonimidodithioic acid, cyano-, 2-chloro-2-methylpropyl methyl ester (9CI) (CA INDEX NAME)



IT Reduction, electrochemical

(polarog., of cyanoimidodithiocarbonate esters)

IT 10191-60-3 10191-66-9 10191-67-0 10191-69-2 10191-72-7

36602-78-5 36602-95-6 52173-96-3 52173-97-4 52173-98-5

52173-99-6 58585-53-8 76837-95-1 79825-00-6 79825-01-7

79825-02-8 79825-03-9 79825-04-0

(polarog. of)

L20 ANSWER 7 OF 11 HCA COPYRIGHT 2006 ACS on STN

90:168095 Cyanodithioimidocarbonates. Gutman, Arnold D. (Stauffer Chemical Co., USA). U.S. US 4124637 19781107, 4 pp. (English). CODEN: USXXAM. APPLICATION: US 1969-863319 19691002.

AB C₁₂C:CRCH₂SC(:NCN)SR₁ (R = H, Cl; R₁ = Me, allyl, 2,6-C₁₂C₆H₃CH₂, C₁₂C:CHCH₂), useful as bactericides, fungicides, and algicides, were prep'd. Thus, KSC(:NCN)SCH₂CH:CH₂ and C₁₂C:CClCH₂Cl were refluxed in Me₂CO 1 h to give 97.4% C₁₂C:CClCH₂SC(:NCN)SCH₂CH:CH₂, which had lowest effective concns. of 10, 5, and 10 ppm, in control of *Escherichia coli*, *Staphylococcus aureus*, and *Chlorella pyrenoidosa*, resp., and gave partial control of *Aspergillus niger* and *Penicillium italicum* at 1 ppm.

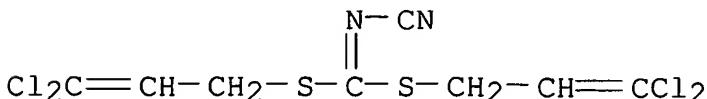
IT 13998-00-0P 69673-70-7P 69673-71-8P

69673-72-9P

(prepn. and fungicidal and bactericidal activity of)

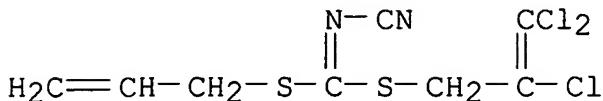
RN 13998-00-0 HCA

CN Carbonimidodithioic acid, cyano-, bis(3,3-dichloro-2-propenyl) ester (9CI) (CA INDEX NAME)



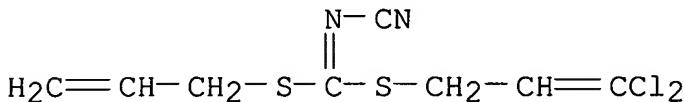
RN 69673-70-7 HCA

CN Carbonimidodithioic acid, cyano-, 2-propenyl 2,3,3-trichloro-2-propenyl ester (9CI) (CA INDEX NAME)



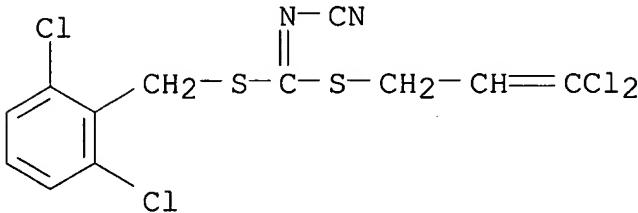
RN 69673-71-8 HCA

CN Carbonimidodithioic acid, cyano-, 3,3-dichloro-2-propenyl 2-propenyl ester (9CI) (CA INDEX NAME)



RN 69673-72-9 HCA

CN Carbonimidodithioic acid, cyano-, (2,6-dichlorophenyl)methyl 3,3-dichloro-2-propenyl ester (9CI) (CA INDEX NAME)

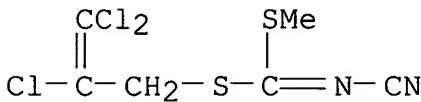


IT **69673-69-4P**

(prepn. and pesticidal activity of)

RN 69673-69-4 HCA

CN Carbonimidodithioic acid, cyano-, methyl 2,3,3-trichloro-2-propenyl ester (9CI) (CA INDEX NAME)



IT Algicides

Bactericides, Disinfectants and Antiseptics

Fungicides and Fungistats

Pesticides

(cyanodithioimidocarbonates)

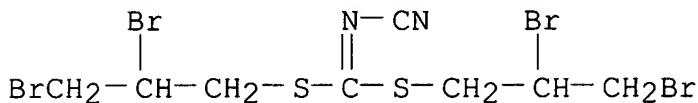
IT **13998-00-0P 69673-70-7P 69673-71-8P**

69673-72-9P

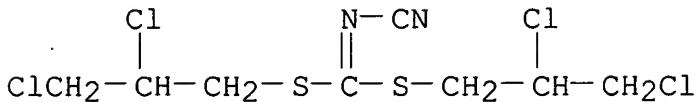
(prepn. and fungicidal and bactericidal activity of)

IT **69673-69-4P**
 (prepn. and pesticidal activity of)
 IT 10436-39-2
 (reaction of, with allyl potassium cyanodithioimidocarbonate)
 IT 36598-32-0
 (reaction of, with tetrachloropropene)

L20 ANSWER 8 OF 11 HCA COPYRIGHT 2006 ACS on STN
 85:93845 Halogenated propyl esters of cyanodithioimidocarbonic acid.
 Buckman, Stanley J.; Fenyes, Joseph G. E.; Pera, John D. (Buckman
 Laboratories, Inc., USA). U.S. US 3959328 19760525, 4 pp.
 (English). CODEN: USXXAM. APPLICATION: US 1975-568069 19750414.
 AB NCN:C(SNa)2 with ClCH2CH:CH2 gave NCN:C(SCH2CH:CH2)2 which was
 halogenated to NCN:C(SCH2CHBrCH2Br)2 and NCN:C(SCH2CHClCH2Cl)2,
 useful as algicides, bactericides, and fungicides.
 IT **60222-99-3P 60223-00-9P**
 (prepn. and pesticidal properties of)
 RN 60222-99-3 HCA
 CN Carbonimidodithioic acid, cyano-, bis(2,3-dibromopropyl) ester (9CI)
 (CA INDEX NAME)



RN 60223-00-9 HCA
 CN Carbonimidodithioic acid, cyano-, bis(2,3-dichloropropyl) ester
 (9CI) (CA INDEX NAME)



IT Algicides
 Bactericides, Disinfectants and Antiseptics.
 Fungicides and Fungistats
 (halopropyl cyanocarbonimidodithioate ester)
 IT **60222-99-3P 60223-00-9P**
 (prepn. and pesticidal properties of)
 IT 13997-95-0P
 (prepn. and halogenation of)
 IT 138-93-2
 (reaction with allyl chloride)
 IT 107-05-1
 (reaction with disodium cyanocarbonimidodithioate)

L20 ANSWER 9 OF 11 HCA COPYRIGHT 2006 ACS on STN
 77:87904 Pesticidal cyanodithioimidocarbonates. Timmons, Richard J.;
 Wittenbrook, Lawrence S. U.S. US 3658901 19720425, 8 pp.
 (English). CODEN: USXXAM. APPLICATION: US 1969-834510 19690618.

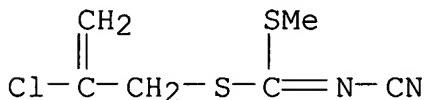
AB A series of pesticidal cyanodithioimidocarbonates, N.tplbond.CN:C(SR)SCH₂R₁ (I), were prep'd. (.apprx.44 examples given) from cyanodithio-imidocarbonic acid salts. Thus, MeI was added to I (R = R₁ = K) in Me₂CO and H₂O at 0.degree., and the mixt. stirred 0.5 hr at 0.degree., then 3.5 hr at room temp. to give 47% I (R = K, R₁ = H). This with piperonyl chloride in Me₂CO gave 45% I (R = piperonyl, R₁ = H). Herbicidal and insecticidal test data were given.

IT **10191-70-5P 36602-90-1P**

(prepn. of)

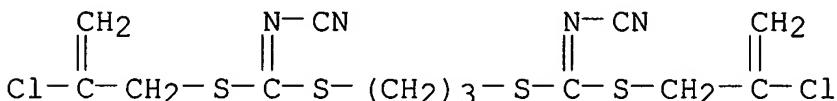
RN 10191-70-5 HCA

CN Carbonimidodithioic acid, cyano-, 2-chloro-2-propenyl methyl ester (9CI) (CA INDEX NAME)



RN 36602-90-1 HCA

CN Carbonimidodithioic acid, cyano-, 1,3-propanediyl bis(2-chloro-2-propenyl) ester (9CI) (CA INDEX NAME)



IT Herbicides
 Insecticides

(cyanoimidodithiocarbonate esters)

IT	10191-61-4P	10191-63-6P	10191-64-7P	10191-65-8P	10191-66-9P
	10191-67-0P	10191-68-1P	10191-69-2P	10191-70-5P	
	10191-71-6P	10239-65-3P	36598-21-7P	36598-22-8P	36598-23-9P
	36598-24-0P	36598-25-1P	36598-26-2P	36598-27-3P	36598-28-4P
	36598-29-5P	36598-30-8P	36598-31-9P	36598-32-0P	36598-33-1P
	36598-34-2P	36598-35-3P	36598-36-4P	36598-37-5P	36598-38-6P
	36598-39-7P	36598-40-0P	36598-41-1P	36598-42-2P	36602-76-3P
	36602-77-4P	36602-78-5P	36602-85-4P	36602-86-5P	36602-87-6P
	36602-90-1P	36602-91-2P	36602-92-3P	36602-93-4P	
	36602-94-5P	36602-95-6P			

(prepn. of)

L20 ANSWER 10 OF 11 HCA COPYRIGHT 2006 ACS on STN

67:3041 Chemistry of cyanodithioimidocarbonic acid. Timmons, R. Jerome; Wittenbrook, Lawrence S. (O. M. Scott and Sons Co., Marysville, OH, USA). Journal of Organic Chemistry, 32(5), 1566-72 (English) 1967. CODEN: JOCEAH. ISSN: 0022-3263. OTHER SOURCES: CASREACT 67:3041.

GI For diagram(s), see printed CA Issue.

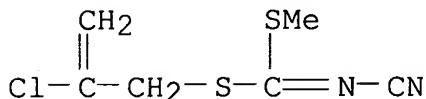
AB The prepn. of a large no. of alkylation and acylation products of K Me cyanodithioimidocarbonate N.tplbond.CN:C(SMe)SK (I) was undertaken. Reaction of the dipotassium salt of cyanodithioimidocarbonic acid with difunctional alkyl halides produces cyclic alkylene cyanodithioimidocarbonates II (n = 1, 2, and 3). The chemistry of one of these, N-cyano-2-imino-1,3-dithiolane (II) (n = 2), was investigated. Chlorinating agents effect the cyclization of I to a new compd., 3-chloro-5-methylthio-1,2,4-thiadiazole.

IT **10191-70-5P**

(prepn. of)

RN 10191-70-5 HCA

CN Carbonimidodithioic acid, cyano-, 2-chloro-2-propenyl methyl ester (9CI) (CA INDEX NAME)



IT 108-04-3P 1072-49-7P 4829-04-3DP, 1,3-Dithiolane, urea derivs.
 10191-60-3P 10191-61-4P 10191-62-5P 10191-63-6P 10191-64-7P
 10191-65-8P 10191-66-9P 10191-67-0P 10191-68-1P 10191-69-2P
10191-70-5P 10191-71-6P 10191-72-7P 10191-73-8P
 10191-74-9P 10191-75-0P 10191-76-1P 10191-77-2P 10191-78-3P
 10191-79-4P 10191-80-7P 10191-81-8P 10191-82-9P 10191-83-0P
 10191-84-1P 10191-85-2P 10191-86-3P 10191-87-4P 10191-88-5P
 10191-89-6P 10191-90-9P 10191-91-0P 10191-92-1P 10239-65-3P
 (prepn. of)

L20 ANSWER 11 OF 11 HCA COPYRIGHT 2006 ACS on STN

66:65134 Cyanoimidodithiocarbonates. D'Amico, John J. (Monsanto Co.). U.S. US 3299129 19670117, 4 pp. (English). CODEN: USXXAM.
 APPLICATION: US 19631213.

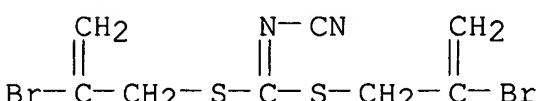
AB Compds. of the general formula (RS)2C:NC.tplbond.N (I) were synthesized where R is selected from the group consisting of lower alkenyl, halogen substituted lower alkenyl, and lower alkynyl. Prepn. involved condensing salts of the corresponding cyanoimidodithiocarbonic acid with the halide-contg. the desired R radical. These salts were prep'd. from CS₂, cyanamide, and an alkali-metal hydroxide. Aq. solns. of H₂O sol. salts can be prep'd. from Ca or other alk. earth cyanamides as described by Pera (CA 52, 5766d). Detailed directions were given for prep'g.

S,S'-diallylcynoimidodithiocarbonate (II), and 9 other compds. listed in the Table. In the prepn. of II, 70 g. K cyanoimidodithiocarbonate in 750 ml. H₂O was treated with stirring at pH 9.6 with 55 g. allyl chloride, the mixt. stirred at 25-30.degree. 24 hrs. and extd. with 500 ml. Et₂O, and the ether soln. washed with water until the washings were neutral to litmus, dried over Na₂SO₄, and evapd. in vacuo at a max. temp. of 30.degree. /1-2 mm. to give 75.5% II amber liquid. Similarly prep'd. were the following I (R, phys. properties, and % yield given): 2-chloroallyl, amber oil, 43.2; 2-bromoallyl, amber oil, 57.7; 2,3-dichloroallyl (cis and trans), black oil, 62.2; 2-propynyl, tan solid, m. 94-5.degree. (EtOAc) 90.5; 2,3,3-trichloroallyl, m. 51-2.degree. (heptane), 82; 2-methallyl, amber liquid, 75; 3,3-dichloroallyl, liquid, 68.5; 3-chloroallyl, amber liquid, 74.5; 3-chloro-2-butenyl, amber liquid, 81.5. A broad variety of biol. tests were made e.g. antibacterial tests involving *Staphylococcus aureus*, fungicide tests using *Aspergillus niger*, *Rhizoctonia solani*, *Venturia inaequalis*, and fungi of the *Pythium* and *Fusarium* species; tests against yellow fever mosquito larvae; and contact herbicide tests. Various ppm. concns. of the compds. showed protection against the destructive effects of microorganisms including both fungi and bacteria.

IT 13997-96-1P 13997-97-2P 13997-98-3P
13998-00-0P 13998-01-1P 13998-02-2P
14265-60-2P 15948-81-9P

(prepn. 01)

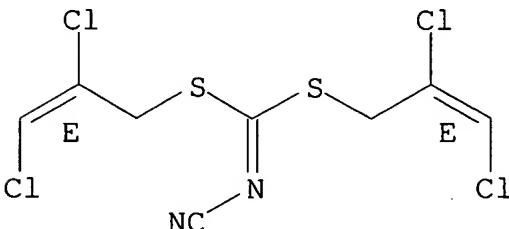
CN Imidocarbonic acid, cyanodithio-, bis(2-bromoallyl) ester (8CI) (CA INDEX NAME)



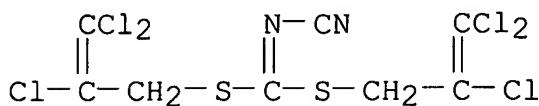
RN 13997-97-2 HCA

CN Imidocarbonic acid, cyanodithio-, bis(2,3-dichloroallyl) ester,
(E,E)- (8CI) (CA INDEX NAME)

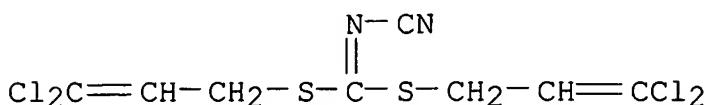
Double bond geometry as shown.



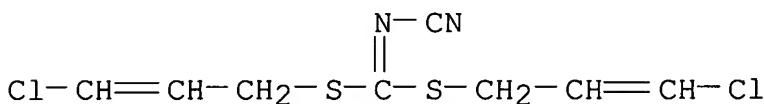
RN 13997-98-3 HCA
 CN Imidocarbonic acid, cyanodithio-, bis(2,3,3-trichloroallyl) ester
 (8CI) (CA INDEX NAME)



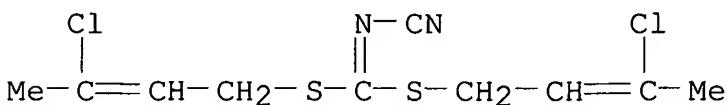
RN 13998-00-0 HCA
 CN Carbonimidodithioic acid, cyano-, bis(3,3-dichloro-2-propenyl) ester
 (9CI) (CA INDEX NAME)



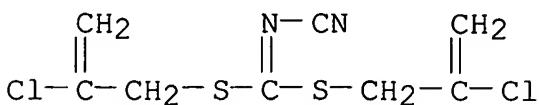
RN 13998-01-1 HCA
 CN Imidocarbonic acid, cyanodithio-, bis(3-chloroallyl) ester (8CI)
 (CA INDEX NAME)



RN 13998-02-2 HCA
 CN Imidocarbonic acid, cyanodithio-, bis(3-chloro-2-butenyl) ester
 (8CI) (CA INDEX NAME)



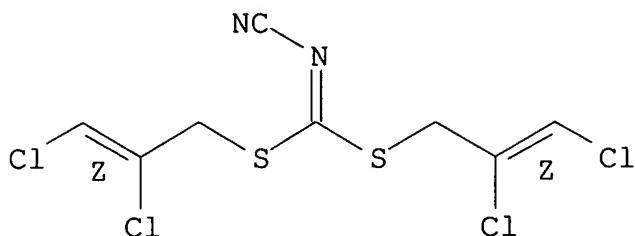
RN 14265-60-2 HCA
 CN Imidocarbonic acid, cyanodithio-, bis(2-chloroallyl) ester (8CI)
 (CA INDEX NAME)



RN 15948-81-9 HCA
 CN Imidocarbonic acid, cyanodithio-, bis(2,3-dichloroallyl) ester,

(Z,Z)- (8CI) (CA INDEX NAME)

Double bond geometry as shown.



IT Bactericides
 Fungicides
 (cyanodithioimidocarbonic acid esters as)
 IT 13997-95-0P **13997-96-1P 13997-97-2P**
13997-98-3P 13997-99-4P 13998-00-0P
13998-01-1P 13998-02-2P 14265-60-2P
 14265-61-3P **15948-81-9P**
 (prepn. of)

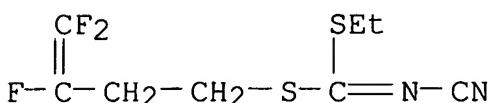
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L20 ANSWER 3 OF 11 HCA COPYRIGHT 2006 ACS on STN
 109:37519 Preparation and formulation of S-trifluorobutenyl dithiocarbamates and imidodithiocarbonates as nematocides and anthelmintics. Cullen, Thomas Gerard; Martinez, Anthony Joseph; Vukich, Jacob Joseph (FMC Corp., USA). PCT Int. Appl. WO 8800183 A1 19880114, 59 pp. DESIGNATED STATES: W: AU, DK, HU, JP, KR, NO; RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1987-US1355 19870609. PRIORITY: US 1986-880421 19860630.

AB The title compds. YC(:X)SCH₂CH₂CF:CF₂ [I; X = NR₁, S; Y = RS, R₂R₃N; R = metal, (un)substituted alkyl or alkenyl, alkynyl, dialkylphosphoryl or -thiophosphoryl, dialkyl-2,3-dihydrobenzofuran-7-yl; R₁ = alkyl, cycloalkyl, cyano, halophenyl, halophenylalkyl, haloalkoxyphenyl, various heterocyclyl; R₂ H, alkyl; R₃ = cycloalkylalkyl, dialkylaminoalkyl, Ph, halophenyl, halophenylalkyl, haloalkoxyphenyl, various heterocyclyl; Y = R₂R₃N when X = S; Y = RS, R₁ .noteq. alkyl, and R .noteq. haloalkenyl when X = NR₁; R .noteq. alkali metal when X = NCN and Y = RS] are prepd. as nematocides and anthelmintics. Reaction of CS₂ with cyanamide in ethanolic KOH gave di-K cyanodithiocarbonate, which was alkylated by BrCH₂CH₂CF:CF₂ in aq. Me₂CO to give KSC(:NCN)SCH₂CH₂CF:CF₂ (II). Further alkylation of II by (bromomethyl)cyclopropane in aq. Me₂CO gave I (X = NCN, Y =

cyclopropylmethyl) (III). At 2.5 ppm in soil, III gave 80-100% control of Meloidogyne incognita. A typical granular formulation contains 1-5 wt.% I and 99-95% attapulgite carrier.

IT 115069-50-6P
 (prepn. of, as nematocide and anthelmintic)
 RN 115069-50-6 HCA
 CN Carbonimidodithioic acid, cyano-, ethyl 3,4,4-trifluoro-3-butenyl ester (9CI) (CA INDEX NAME)



IT Anthelmintics
 Nematocides
 (trifluorobutetyl dithiocarbamates and imidodithiocarbonates)
 IT 10493-44-4
 (alkylation by, of dipotassium cyanoimidodithiocarbonate)
 IT 7051-34-5, Bromomethylcyclopropane
 (alkylation by, of potassium trifluorobutyl cyanoimidodithiocarbonate)
 IT 563-58-6, 1,1-Dichloropropene 13195-80-7, 1,1-Dibromopropene
 (allylic bromination of)
 IT 13826-35-2
 (conversion of, to bromide)
 IT 513-86-0
 (cyclocondensation of, with cyanamide)
 IT 6337-33-3, 2,3-Dihydro-2,2-dimethylbenzofuran
 (formylation of)
 IT 814-49-3, Diethyl chlorophosphate 2524-04-1, O,O-Diethyl chlorothiophosphate
 (phosphorylation by, of potassium trifluorobutetyl cyanoimidodithiocarbonate)
 IT 36417-14-8P, 1,1,3-Tribromo-1-propene 36469-73-5P,
 1,1-Dichloro-3-bromo-1-propene 51632-16-7P, 3-Phenoxybenzyl bromide 115070-62-7P
 (prepn. and alkylation by, of potassium trifluorobutetyl cyanoimidodithiocarbonate)
 IT 13145-41-0P, Dipotassium cyanoimidodithiocarbonate 16681-20-2P
 (prepn. and alkylation of, by bromotrifluorobutene)
 IT 38002-88-9P
 (prepn. and borohydride redn. of)
 IT 38002-89-0P
 (prepn. and conversion of, to chloride)
 IT 29110-26-7P 115070-43-4P
 (prepn. and methylation of)
 IT 36598-34-2P 115069-47-1P 115069-48-2P 115069-49-3P

115069-50-6P 115069-51-7P 115069-52-8P
 115069-53-9P 115069-54-0P 115069-55-1P
 115069-56-2P 115069-57-3P 115069-58-4P
 115069-59-5P 115069-60-8P 115069-61-9P
 115069-62-0P 115069-63-1P 115069-64-2P
 115069-65-3P 115069-66-4P 115069-67-5P
 115069-68-6P 115069-69-7P 115069-70-0P
 115069-71-1P 115069-72-2P 115069-73-3P
 115069-74-4P 115069-75-5P 115069-76-6P
 115069-77-7P 115069-78-8P 115069-79-9P 115069-80-2P
 115069-81-3P 115069-82-4P 115069-83-5P 115069-84-6P
 115069-85-7P 115069-86-8P 115069-87-9P 115069-88-0P
 115069-89-1P 115069-90-4P 115069-91-5P 115069-92-6P
 115069-93-7P 115069-94-8P 115070-29-6P 115070-30-9P
 115070-31-0P 115070-32-1P 115070-33-2P 115070-34-3P
 115070-35-4P 115070-36-5P 115070-37-6P 115070-38-7P
 115070-39-8P 115070-40-1P 115070-41-2P 115070-42-3P
 115070-43-4P 115070-44-5P 115070-45-6P 115070-46-7P
 115070-47-8P 115070-48-9P 115070-49-0P 115070-50-3P
 115070-51-4P 115070-52-5P 115070-53-6P 115070-54-7P
 115070-55-8P 115070-56-9P 115070-57-0P 115070-58-1P
 115070-59-2P 115070-60-5P 115070-61-6P 115091-24-2P
 115139-48-5P 115139-49-6P 115139-50-9P
 115139-51-0P 115139-52-1P 115139-53-2P
 115139-54-3P 115139-55-4P 115139-56-5P
 115139-57-6P 115139-58-7P 115139-59-8P
 115139-60-1P 115139-61-2P 115139-62-3P
 115139-63-4P 115139-64-5P 115139-65-6P
 115139-66-7P 115139-67-8P 115139-68-9P
 115139-69-0P 115139-70-3P 115139-71-4P
 115139-72-5P 115139-73-6P 115139-74-7P
 115139-75-8P 115139-76-9P 115139-77-0P
 115139-78-1P 115139-79-2P 115139-80-5P
 115139-81-6P 115139-82-7P 115139-83-8P 115139-84-9P
 115139-85-0P 115139-86-1P 115139-87-2P 115139-88-3P
 115139-89-4P 115139-90-7P 115139-91-8P 115139-92-9P
 115139-93-0P 115139-94-1P 115160-06-0P 116190-21-7P
 (prepn. of, as nematocide and anthelmintic)
 IT 420-04-2, Cyanamide 593-51-1, Methylamine hydrochloride
 (reaction of, with carbon disulfide)
 IT 10444-89-0, 2-Amino-5-trifluoromethyl-1,3,4-thiadiazole
 45529-92-8, 2-Amino-4,5-dimethyloxazole 68298-46-4,
 7-Amino-2,3-dihydro-2,2-dimethylbenzofuran
 (reaction of, with carbon disulfide and bromotrifluorobutene)
 IT 75-15-0, Carbon disulfide, reactions
 (reaction of, with cyanamide)